VOLUME 77 PART 7 FEBRUARY 1979 ISSN 0303–2515

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(*continued inside back cover*)

ANNALS OF THE SOUTH AFRICAN MUSEUM
ANNALE VAN DIE SUID-AFRIKAANSE MUSEUM

Volume 77 Band
February 1979 February
Part 7 Deel



A NEW GENUS AND SPECIES OF THE PENAEOID FAMILY SOLENOCERIDAE (CRUSTACEA, DECAPODA) FROM SOUTH-EAST AFRICAN WATERS

By

ANTÓNIO J. DE FREITAS

Cape Town Kaapstad

The ANNALS OF THE SOUTH AFRICAN MUSEUM

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Obtainable from the South African Museum, P.O. Box 61, Cape Town 8000

Die ANNALE VAN DIE SUID-AFRIKAANSE MUSEUM

word uitgegee in dele op ongereelde tye na beskikbaarheid van stof

Verkrygbaar van die Suid-Afrikaanse Museum, Posbus 61, Kaapstad 8000

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1, 2(1–3, 5–8), 3(1–2, 4-5, 8, t.–p.i.), 5(1–3, 5, 7–9), 6(1, t.–p.i.), 7(1–4), 8, 9(1–2, 7), 10(1–3), 11(1–2, 5, 7, t.–p.i.), 15(4–5), 24(2), 27, 31(1–3), 32(5), 33

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Kopieregnavrae na die Suid-Afrikaanse Museum

ISBN 0 908407 64 5

Printed in South Africa by
The Rustica Press, Pty., Ltd.,
Court Road, Wynberg, Cape

In Suid-Afrika gedruk deur
Die Rustica-pers, Edms., Bpk.,
Courtweg, Wynberg, Kaap

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By

ANTÓNIO J. DE FREITAS

Oceanographic Research Institute, Durban

(With 1 figure and 1 table)

[*MS accepted 31 October 1978*]

ABSTRACT

A new genus, *Cryptopenaeus*, is proposed for a new solenocerid species, *Cryptopenaeus catherinae*, which is described and illustrated. The new genus is related to *Hymenopenaeus* and *Haliporoides* formerly belonging to the genus *Hymenopenaeus*, *sensu lato*. *C. catherinae* has so far been found only in three localities off southern Mozambique at depths of 310–500 metres.

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INTRODUCTION

In June 1969, while collecting penaeoid shrimps aboard a trawler operating in deep water off southern Mozambique, one male specimen representing a new genus and species was caught in 350 metres of water. Further male specimens were subsequently found in the same area in June 1973, and the only female available was caught in September 1976 at a depth of 500 metres.

All specimens were caught together with the commercially important pink or knife prawn *Haliporoides triarthrus*, as well as the less common *Aristeomorpha foliacea* and *Penaeopsis balssi*.

Genus ***Cryptopenaeus*** gen. nov.

Diagnosis

Body robust; carapace elongate; integument firm. Rostrum short, not reaching distal margin of first antennular segment; ventral margin moderately convex; armed only with dorsal teeth; epigastric tooth and first rostral separated by interval equal to or only slightly greater than that between first and second rostral teeth. Orbital, suprahepatic and branchiostegal spines absent; antennal, postorbital, hepatic and pterygostomian spines present; cervical sulcus deep, long but not reaching mid-dorsum of carapace; hepatic sulcus deep and long, bending anteroventrally from horizontal posterior part and almost reaching

Ann. S. Afr. Mus. **77** (7), 1979: 123–131, 1 fig., 1 table.

base of pterygostomian spine; orbito-antennal groove shallow and wide; branchiocardiac carina distinct but not sharp; mid-dorsal abdominal carina present on segments two to six. Telson with pair of short fixed spines; no movable marginal spines. Prosartema narrow, long, extending beyond end of eye. Antennular flagella similar, subcylindrical and equal to, or slightly longer than, carapace. Mandibular palp two jointed; articles subequal in length, distal one narrower than basal and tapering to rounded apex. Exopodites on all maxillipeds and pereiopods. Lateral ramus of uropod with very small, blunt distolateral spine. Petasma with ventrolateral lobule entirely occupied by ventral costa and distally free from dorsolateral lobule; both ventrolateral and dorsolateral lobules heavily sclerotinized; appendix masculina and appendix interna present. Thelycum simple, of open type. Podobranch on maxilliped II only; epipodites on maxillipeds II and III and on pereiopods I–IV.

Type species

Cryptopenaeus catherinae sp. nov.

Etymology

The generic name is derived from the prefix *crypto*, from the Greek *kryptos* meaning hidden, in combination with the generic name *Penaeus*, denoting the fact that this shrimp has been hidden from science until now; gender masculine.

Taxonomic status and comments

From the works of Bate (1881, 1888), Bouvier (1906), and Burkenroad (1936), it is clear that the generic complex forming the then accepted subfamily Solenocerinae presented many taxonomic difficulties. This subfamily consisted of three genera: *Solenocera*, shrimps with concave antennular flagella (Lucas 1849; Wood-Mason & Alcock 1891; Barnard 1950); *Haliporus*, shrimps with subcylindrical antennular flagella and movable lateral spines on the telson anterior to fixed pair (Bate 1881; Kensley 1968); and *Hymenopenaeus*, shrimps with subcylindrical antennular flagella and lacking lateral spines on the telson (Smith 1882; Wood-Mason & Alcock 1891; Barnard 1950).

It is apparent from the literature, however, that Burkenroad (1936) was somewhat unhappy with the taxonomic status of *Hymenopenaeus* and went to the point of dividing the genus into four superspecies '. . . according to the presence or absence of branchiostegal or pterygostomian spines and to the nature of the postrostral armature'. Pérez Farfante (1977) revised the subfamily and, besides proposing that the subfamilies hitherto accepted should be elevated to the category of families of the superfamily Penaeoidea, divided *Hymenopenaeus* into five genera partly based on the superspecific groups elaborated by Burkenroad (1936). In doing so Pérez Farfante takes into consideration the '. . . shape of the antennular flagella and rostrum, proportions of the carapace, number and comparative size of the articles of the mandibular palp, presence or absence of certain carinae on the carapace, relative dimensions of the posterior

two pairs of pereiopods, location of the distolateral spine of the lateral ramus of the uropod, structure of the petasma and degree of development of the arthrobranchia on somite VII', as well as those characteristics originally used by Burkenroad.

The system presented is very comprehensive and covers the previously known species extremely well. However, whereas the six specimens caught in southern Mozambique belong clearly to the family Solenoceridae and would have fitted into the genus *Hymenopenaeus sensu lato*, they do not belong to any of the five genera established by Pérez Farfante (1977), and have therefore been placed in a new genus, *Cryptopenaeus*.

Table 1 sets out the similarities and differences between *Cryptopenaeus* and the other five genera, *Hymenopenaeus*, *Haliporoides*, *Pleoticus*, *Hadropenaeus*, and *Mesopenaeus*. The new genus is closely allied to *Hymenopenaeus* and *Haliporoides* but differs from the former in the arrangement of the rostral teeth, the absence of branchiostegal spines, the presence of a mid-dorsal carina on abdominal segments 2 and 3 and also by the short rostrum with a strongly convex ventral margin. *Cryptopenaeus* differs from *Haliporoides* in the arrangement of the rostral teeth, presence of a dorsal carina on the second abdominal segment, by the absence of a suprahepatic spine and by the short rostrum with a strongly convex ventral margin. The petasma of *Cryptopenaeus* differs from that of the other five genera in having the ventrolateral lobule entirely occupied by the ventral costa.

Cryptopenaeus catherinae sp. nov.

Fig. 1

Material

Holotype: SAM–A16148 in the South African Museum, Cape Town, ♂, 46,7 mm carapace length, caught off Cape Santa Maria in southern Mozambique (26°06′S 33°08′E) at a depth of 350 metres, on 16 December 1969.

Alloptype: SAM–A16149 in the South African Museum, Cape Town, ♀, 63,2 mm carapace length, caught off Monte Bello in southern Mozambique (25°00′S 35°21′E) at a depth of 500 metres, in September 1976.

Paratypes: 4 ♂♂, 44,5–47,7 mm carapace length, caught off southern Mozambique at a depth of 310 metres, in June 1973. One male paratype is in the National Museum of Natural History in Washington, D.C., and the remaining three will be sent to the British Museum (Natural History).

Description

Rostrum. Slightly downwardly directed, reaching to or just beyond end of first antennular segment; ventral margin convex; rostral teeth $\frac{7-8}{0}$; epigastric and three other teeth situated behind postorbital margin of carapace; adrostral carina short, just reaching postorbital margin; postrostral carina very well developed, long, almost reaching posterior margin of carapace and with conspicuous notch behind epigastric tooth; median groove absent.

TABLE 1

Characteristics distinguishing *Cryptopenaeus* gen. nov. from the five closely related genera

	Hymenopenaeus	*Haliporoides*	*Pleoticus*	*Hadropenaeus*	*Mesopenaeus*	*Cryptopenaeus*
Epigastric and rostral teeth ..	Epigastric and 1st rostral teeth separated from 2nd	Epigastric separated from 1st rostral tooth	Separated by regularly decreasing intervals	Separated by regularly decreasing intervals	Separated by regularly decreasing intervals	Separated by regularly decreasing intervals
Abdominal dorsal carina ..	4–6	3–6	1–6 or 3–6	3–6	3–6	2–6
Branchiostegal spine	Present	Absent	Present or absent	Present	Absent	Absent
Pterygostomian spine	Present or absent	Present	Absent	Absent	Absent	Present
Orbital spine	Absent	Absent	Present	Absent	Present	Absent
Suprahepatic spine	Absent	Present	Absent	Absent	Absent	Absent
Branchiocardiac carina	Present	Present	Absent	Absent	Absent	Present
Submarginal carina	Present	Present	Present	Absent	Absent	Present
Ventral margin of rostrum ..	Straight	Long, straight to concave	Straight to concave	Strongly convex	Strongly convex	Short and convex

Carapace. Uniformly glabrous and lightly punctate; gastrofrontal and postocular grooves and horizontal suture absent; no supra-orbital spine; cervical sulcus and carina very well developed and long but not reaching dorsal midline; cervical carina terminating anteroventrally in prominent hepatic spine; gastro-orbital carina absent; postorbital spine prominent; antennal spine present but relatively small; antennal carina absent; orbito-antennal groove restricted to wide depression extending from below postorbital spine to below hepatic spine; hepatic carina sharp, anteroventrally directed and situated just anterior and below hepatic spine; hepatic sulcus wide and deep; extending posteriorly below hepatic spine; branchiocardiac carina distinct but not very sharp. Branchiostegal spine absent; pterygostomian spine prominent and sharp; submarginal carina long and sharp; no vertical suture or carina.

Antennule. Flagella subequal in length; about 2,5 times length of antennular peduncle; subcylindrical; mesial flagella twice as thick as lateral flagella; prosartema flexible with pointed apex, reaching just beyond distal end of first antennular peduncle, copiously provided with long setae; stylocerite sharply pointed distally, straight and reaching just beyond end of eye or to end of first antennular article; distolateral spine prominent and long; parapenaeid spine absent.

Scaphocerite. Distolateral spine reaching just beyond distal end of antennular peduncle; apex of lamella extending beyond distolateral spine; basicerite with single broad blunt tooth distally.

Mandibular palp. Reaching to about basal one-third of carpocerite; proximal article 1,8 times as long as wide; distal article subequal to proximal, tapering to rounded apex.

Maxilliped III. Endopodite not exhibiting sexual dimorphism; reaching distal end of scaphocerite; exopodite short, reaching less than half-way along merus of endopodites; epipodite present.

Pereiopods. Exopodites present on all pereiopods, well developed, longest on first periopod and shortest on fifth; epipodites present on pereiopods I–IV; basipodites of first, second and third with prominent spines; ischial spine present on first pereiopod only; distinct coxal spine on fifth pereiopod. Pereiopod IV reaching to apex of mandibular palp; pereiopod V reaching to distal end of antennular peduncle. Extended laterally lengths of pereiopods in ascending order are: first, second and fourth, third and fifth.

Abdomen. Uniformly glabrous; mid-dorsal carina present from posterior half of second segment to end of sixth where it terminates in short spine; short vertical groove on pleura of first segment; lateral carinae absent.

Telson. Slightly longer than sixth segment; about as long as mesial ramus of uropod; median groove deep, occupying only anterior half of telson; apical spine somewhat blunt; pair of inconspicuous, very short, fixed subapical spines present; movable marginal spines lacking.

Thelycum. Simple open structure; anterior portion formed by vertical posterior face of sternite between fourth pereiopods; posterior face with short

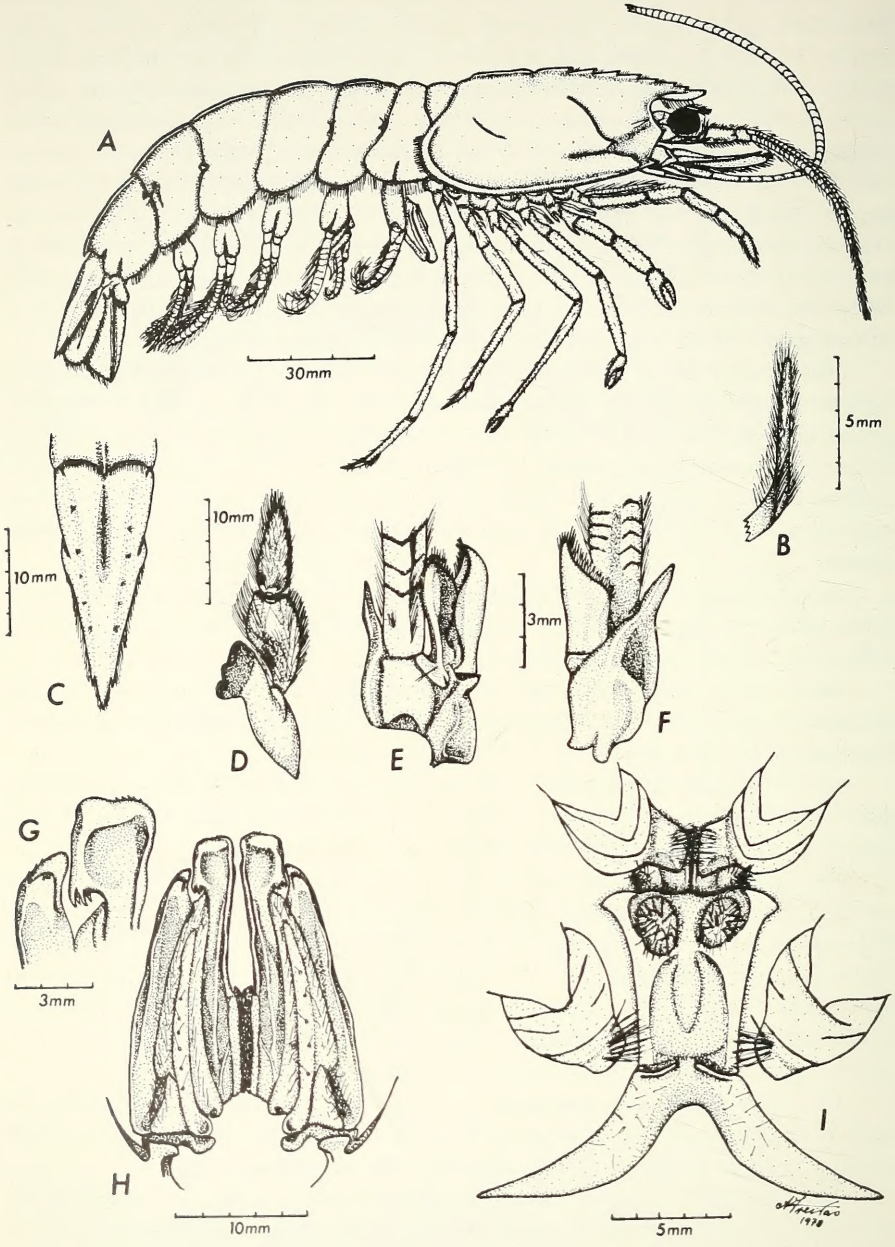


Fig. 1. *Cryptopenaeus catherinae* sp. nov. A. Lateral view, holotype ♂ 46,7 mm carapace length. B. Right prosartema. C. Telson. D. Left mandibular palp, ventral view. E. Left appendix masculina and interna, ventral view. F. Appendix masculina, dorsal view. G. Distal subquadrate process of right half of petasma. H. Petasma, ventral view. I. Thelycum.

median groove and low lateral ridges; covered with short setae and obscured by coxal protuberances of fourth pereiopods. Posterior portion (between fifth pereiopods) consisting of elongate plate; broad central ridge occupying slightly more than anterior two-thirds of plate; well-defined lateral ridges extending from posterior sternal process to anterior margin of somite; two suboval, setose, boss-like structures present between anterior third of lateral ridges and median ridge; anterior margin of posterior sternal process interrupted by deep median sulcus.

Petasma. Simple and very slightly involuted; dorsomedian lobule about two-fifths of total length of petasma; entirely united along midline; ventromedian lobule elongate and subtriangular; inner membranous section folded slightly on itself; heavily sclerotinized central ridge running length of lobule terminating distally in thick subquadrate process; distal margin smooth; proximolateral angle of quadrate process beak-like with four or five blunt teeth; ventral face of process concave; dorsal face convex; dorsolateral lobule elongate and subtriangular; apex situated under proximolateral angle of distal ventromedian process; lower inner angle forms small proximal process; ventral surface sparsely covered with long setae; ventral costa (occupying entire ventrolateral lobule) extending along lateral margin of petasma reaching half way into distal ventromedian process; apex free and bi-lobed; dorsal lobe longer than ventral lobe; ventral lobe with one to four minute teeth.

Appendix masculina. Dorsally convex, ventrally concave, roughly trapezoid in shape; distal margin with row of short, stout setae; appendix interna subequal in length to appendix masculina, half fitting into concave face of latter; elongate with concave median surface; apex with short stout setae. Basal segment of endopodite of pleopod II as wide as long, its distolateral portion concave, subtriangular and produced into long, blunt spur.

Colour in life. Body generally red, carapace with broad white stripe running from below hepatic sulcus to almost posterior margin of carapace on each side; this stripe wider in posterior half of carapace; on abdominal segments brighter red patch running anteroventrally on each pleuron; distinct white longitudinal stripe on dorsal carina of abdominal segments 4–6; telson and uropods pinkish white becoming red along posterior edges; lateral margins of scaphocerite red; rostral crest and pereiopods pinkish white; basal segments of pleopods grey to white; pleopodal endopodites greyish white becoming bright red distally; marginal setae of pleura, pleopods and uropods orange while those of scaphocerite and antennules white.

Distribution

Known only from the type locality.

Ecological notes

All the specimens were collected from the same general area, namely the Limpopo Bight in southern Mozambique. This is an important fishing ground

where the main species of interest are the spiny lobster, *Palinurus delagoae*, caught in about 280–350 metres, the langoustine, *Nephrops andamanicus*, trawled in 320–380 metres, and the pink or knife prawn, *Haliporoides triarthrus*, found in 300–500 metres.

In this area, the continental slope is relatively gentle down to 500 metres after which it drops very steeply to about 3 000 metres. The substrate consists of muddy sand to sandy mud and the temperature at 300–500 metres depth recorded in April and September 1964 was 11–13°C (Instituto Hidrográfico Lisbon 1965, 1967).

Although *Cryptopenaeus catherinae* has so far been found only in the type locality, it seems feasible to expect that, as its associate species, *Haliporoides triarthrus*, *Aristeomorpha foliacea* and *Penaeopsis balssi* are found off the coast of Natal, the distribution of *C. catherinae* could possibly extend southward as well.

ACKNOWLEDGEMENTS

I wish to thank the Fisheries Development Corporation and the South African Association for Marine Biological Research for their financial and administrative assistance; Dr Isabel Pérez Farfante of the Systematics Laboratory, National Marine Fisheries Service, Washington D.C., U.S.A., for having checked the identity of this species and for the meticulous way in which she read and criticized my manuscript; Professor A. E. F. Heydorn, Director of the Oceanographic Research Institute, Durban, for his encouragement and for his criticism of the manuscript; Dr P. F. Berry for reading and criticizing the paper; and finally my wife, after whom this species is named, for her encouragement, patience and understanding.

REFERENCES

Barnard, K. H. 1950. Descriptive catalogue of South African decapod crustacea. *Ann. S. Afr. Mus.* **38**: 1–837.

Bate, C. S. 1881. On the Penaeidae. *Ann. Mag. nat. Hist.* (5) **8**: 169–196.

Bate, C. S. 1888. Report on the Crustacea Macrura collected by H.M.S. *Challenger* during the years 1873–1876. *Rep. Sci. Results Voyage H.M.S. Challenger 1873–76, Zool.* **24**: 1–942.

Bouvier, E. L. 1906. Observations sur les Peneides du genre *Haliporus* Bate. *Bull. Mus. Oceanogr., Monaco* **81**: 1–10.

Burkenroad, M. D. 1936. The Aristaeinae, Solerocerinae, and pelagic Penaeinae of the Bingham Oceanographic Collection. *Bull. Bingham Oceanogr. Coll.* **5**(2): 1–151.

Instituto Hidrográfico Lisbon. 1965. *Resultados das observações oceanográficas no Canal de Moçambique, Cruzeiro AL 1/64: Abril-Maio 1964* **1**: 1–73.

Instituto Hidrográfico Lisbon. 1967. *Resultados das observações oceanográficas no Canal de Moçambique, Cruzeiro AL 2/64: Setembro-Outubro 1964 3*: 1–107.

Kensley, B. F. 1968. Deep sea decapod Crustacea from west of Cape Point, South Africa. *Ann. S. Afr. Mus.* **50**: 283–323.

Lucas, P. H. 1849. Genus *Solenocera* Lucas. *Rev. Mag. Zool.* (2) **1**: 300.

Pérez Farfante, I. 1977. American solenocerid shrimps of the genera *Hymenopenaeus*, *Haliporoides*, *Pleoticus*, *Hadropenaeus* new genus, and *Mesopenaeus* new genus. *Fish. Bull.* **75**: 261–346.

SMITH, S. I. 1882. Report on the results of dredging, under the supervision of Alexander Agassiz, on the East Coast of the United States, during the summer of 1880 by the U.S. Coast Survey Steamer 'Blake'. 17: Report on the Crustacea, 1: Decapoda. *Bull. Mus. comp. Zool., Harv.* **10**: 1–108.

WOOD-MASON, J. & ALCOCK, A. 1891. Natural history notes from H.M. Indian Marine Survey steamer 'Investigator', Commander R. F. Hoskyn, R.N., commanding. No 21. Note on the results of the last season's deep-sea dredging. *Ann. Mag. nat. Hist.* (6) **8**: 268–286.

6. SYSTEMATIC papers must conform to the *International code of zoological nomenclature* (particularly Articles 22 and 51).

Names of new taxa, combinations, synonyms, etc., when used for the first time, must be followed by the appropriate Latin (not English) abbreviation, e.g. gen. nov., sp. nov., comb. nov., syn. nov., etc.

An author's name when cited must follow the name of the taxon without intervening punctuation and not be abbreviated; if the year is added, a comma must separate author's name and year. The author's name (and date, if cited) must be placed in parentheses if a species or subspecies is transferred from its original genus. The name of a subsequent user of a scientific name must be separated from the scientific name by a colon.

Synonymy arrangement should be according to chronology of names, i.e. all published scientific names by which the species previously has been designated are listed in chronological order, with all references to that name following in chronological order, e.g.:

Family **Nuculanidae**

Nuculana (*Lembulus*) *bicuspidata* (Gould, 1845)

Figs 14–15A

Nucula (*Leda*) *bicuspidata* Gould, 1845: 37.
Leda plicifera A. Adams, 1856: 50.
Laeda bicuspidata Hanley, 1859: 118, pl. 228 (fig. 73). Sowerby, 1871: pl. 2 (fig. 8a–b).
Nucula largillierti Philippi, 1861: 87.
Leda bicuspidata: Nicklès, 1950: 163, fig. 301; 1955: 110. Barnard, 1964: 234, figs 8–9.

Note punctuation in the above example:
comma separates author's name and year
semicolon separates more than one reference by the same author
full stop separates references by different authors
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dash, not comma, separates consecutive numbers

Synonymy arrangement according to chronology of bibliographic references, whereby the year is placed in front of each entry, and the synonym repeated in full for each entry, is not acceptable.

In describing new species, one specimen must be designated as the holotype; other specimens mentioned in the original description are to be designated paratypes; additional material not regarded as paratypes should be listed separately. The complete data (registration number, depository, description of specimen, locality, collector, date) of the holotype and paratypes must be recorded, e.g.:

Holotype
SAM–A13535 in the South African Museum, Cape Town. Adult female from mid-tide region, King's Beach Port Elizabeth (33°51'S 25°39'E), collected by A. Smith, 15 January 1973.

Note standard form of writing South African Museum registration numbers and date.

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Capital initial letters

(a) The Figures, Maps and Tables of the paper when referred to in the text
e.g. '. . . the Figure depicting *C. namacolus* . . .'; '. . . in *C. namacolus* (Fig. 10) . . .'

(b) The prefixes of prefixed surnames in all languages, when used in the text, if not preceded by initials or full names
e.g. Du Toit but A. L. du Toit; Von Huene but F. von Huene

(c) Scientific names, but not their vernacular derivatives
e.g. Therocephalia, but therocephalian

Punctuation should be loose, omitting all not strictly necessary

Reference to the author should be expressed in the third person

Roman numerals should be converted to arabic, except when forming part of the title of a book or article, such as
'Revision of the Crustacea. Part VIII. The Amphipoda.'

Specific name must not stand alone, but be preceded by the generic name or its abbreviation to initial capital letter, provided the same generic name is used consecutively.

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